

The Wise Brain Bulletin

News and Tools for Happiness, Love, and Wisdom
Volume 2, 8 (8/14/08)

Featured Article:

PRACTICE, PERCEPTION, TRUTH, REALITY, AND DELUSION

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Editors' note:

We received a quite extraordinary letter from one of the Bulletin's readers, Dr. Joseph Karniewicz, which led to this equally remarkable article, in the form of a letter. It's brilliant, controversial in places, poetic, demanding, mind-blowing, and touching – and you may never look at a rose the same way again.

Dear Drs. Hanson and Mendiis,

Thank you for taking the time to respond to my recent letter concerning some questions that I've been having about meditative practice. The article you referred me to in WiseBrain 2.2, (www.WiseBrain.org), touches on most of the points that were of concern to me and provides a cogent framework in which to discuss these issues. I would like to reframe the points raised in my original letter within the context of your article, and I

welcome any comments from you or your readers.

Epistemological Principle and the Practice Problem

The issue that I've been having with meditation practice is epistemological in nature. It arises from what I would call (for lack of a better description) the Epistemological Principle (EP). This principle states that:

Also in this issue:

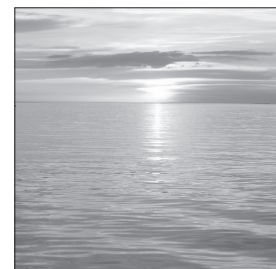
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punching off his points
in his contract on America
which is really nothing but
the Grand Old Party's old wisdom
from forever or at least the 5th
cutting the capital gains tax
and anything that might concern
of poor people dying in the streets
and as this is morning, grooming
suddenly the camera is pulled up
umptenably up the capitol steps
the backdrop of the staged photo
up to the capitol dome itself
where some true patriotic sons
have managed to convey a hand

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Greetings

The Wise Brain Bulletin offers skillful means from brain science and contemplative practice – to nurture your brain for the benefit of yourself and everyone you touch.

The Bulletin is offered freely, and you are welcome to share it with others. Past issues are posted at www.WiseBrain.org.

Rick Hanson, PhD and Richard Mendius, MD edit the Bulletin, and it's designed and laid out by Laurel Hanson. To subscribe, please contact Rick at drh@comcast.net.

All that can ever be known or experienced by any sentient being are its own immaterial subjective internal representations of a (possibly) external reality.

For example, I may sit in meditation with the intent of developing a sense of intimacy with raw external sensations. If I practice well, I may even induce states of oneness with those sensations and think that this has

brought me closer to some truth about the nature of reality and myself.

But EP tells me that all I have done is swapped one internal state for another and have never left the domain of subjectivity.

Whether my representations are ones of duality or ones of wholeness or even representations that I cannot even imagine at this point, they are all just subjective internal representations. They may not even contain any truth in the commonly accepted sense of conforming to what is objectively real and not just internally conjectured.

A sense of doubt and lack of faith in the practice can easily result.

Connection of EP and the Practice Problem to the WiseBrain Discussion

I believe that you covered related ground in your article, "The Neurology of Awareness and Self" in the Wise Brain Bulletin 2.2 (see www.WiseBrain.org/

[bulletin.html](#)) and have touched on EP in your excellent discussion of the four domains:

- Objective Oneness
- Transcendental Oneness
- Ordinary Duality
- Subjective Oneness

I find myself very much in agreement with almost every element of your article, from the evolution of awareness to the nature of the self. Within this context, it all 'feels right' and is consistent with everything (which, admittedly, is not all that much) that I've learned about the nature of the world and the nature of the self. It captures the highest aspirations that we have for a deeper understanding of the world and our relationship to it and others.

But all of that can be swept asunder with the application of EP. And while you acknowledge the existence of EP, you seem to quickly brush it under the table.

My personal feeling is that it is essential to have EP as the bedrock of our metaphysical formulations and not just nod to it and move on. Otherwise, our house will always be built on shaky ground.

To discuss the role that EP plays within the four Domains, I would like to revisit your discussion and describe the four domains from the point of view of a physical scientist.

Let's start with the domain of Objective Oneness.

Objective Oneness

You have a wonderful description of Objective Oneness in your article and it is one that any scientist would be able to relate to. The Buddha's ancient prescription of anatta (emptiness) seems to be recaptured in the modern science of chemistry.

As you have noted, atoms maintain their integrity over billions of years and have participated in many different forms throughout their existence. But these cognized

forms are not 'things' unto themselves, they are simply conceptual designations given to arrangements of more fundamental objects. The naming of forms does not create a new independent entity that had not existed before.

When water molecules come together, has a new object called a 'cloud' really come into existence? Or is it just the same water molecules in a different configuration?

In a similar vein, we could ask when does the acorn end and the oak tree begin? Is there really an acorn to end and an oak tree to begin? Or is there just one continuous process of transformation that is ever changing and not amenable to static descriptions?

By understanding that all these conceptual designations are just subjective freezings of a continuous process, I can achieve a certain degree of equanimity with my life. I might take comfort in the possibility that if there never really was a separate self that was born, then perhaps there will be never be a separate self that will die.

If I can realize that I am the process and not the entity, then my life can proceed harmoniously in accord with the nature of the universe and not as an illusory self struggling to maintain its apparent existence.

Transcendental Oneness

We can now move from the domain of Objective Oneness to touch on the domain of Transcendental Oneness. This is also somewhat hinted at by modern science through the study of elementary particles.

Science tells us that although the atoms which constitute the many forms that we experience are somewhat stable, they too are nothing more than patternings of more elementary objects.

Science also tells us that atoms consist of protons, electrons, and neutrons. These in turn are comprised of quarks of various kinds and the quarks themselves are comprised (according to the latest scientific hypothesis)

of elementary vibrations of energy called strings.

So at the bottom of everything, including time and the 11 or so dimensional space of string theory, there may be these interacting loops of energy called strings.

But what is this energy that the strings themselves are composed of? And what is the principle that was encoded or embodied in these strings at the moment of the big bang that would eventually lead to the formation of living, conscious entities capable of inquiry, of compassion, and of writing letters that are perhaps a bit too long?

I am quite comfortable to use your term Transcendental Oneness to describe this Principle that may be at the ground of all that is and to silently bow to it with a deep gassho of respect. There is little else that can be said here.

Ordinary Duality

On the other side of Objective Oneness, we can enter the realm of Ordinary Duality. This is our world where conceptual designations are used to carve out interacting objects from the sea of Objective Oneness.

These objects come into and go out of existence and follow strict laws of interaction with each other. We treat these conceptual designations as real objects. We become emotional over their coming and going, their birth and death, and we spend a good deal of our energy trying to grasp them or avoid them. We spend our lives trapped in this world of duality and its attendant unease, never realizing that we ourselves are also carved out from this sea of Objective Oneness along with the objects that we treat as other.

Having experienced the unease that comes with the world of duality, many seek the union and unity that the domain of Objective Oneness appears to offer and treat the world of Ordinary Duality as one which results from an improper interpretation of Objective Oneness.

But the above description of Ordinary Duality as a conceptual matrix placed on Objective Oneness is a bit too simplistic.

There does seem to be a phenomenon called emergence, in which the complexity of form does indeed bring about new features which are not properties of the elements that comprise that form. Something new does indeed come into existence along with the various forms.

The properties exhibited by these formations can be limited to simple physical properties such as color, wetness, odor, or texture, or they could be more refined

and complex, such as the ability to know or to love. The story of how forms interact via their emergent properties is nothing less than the history of our universe.

As a simple concrete example, one can think of having a box of electrical parts which are not connected to one another.

In their present form, as unrelated building blocks, they don't do much. But with the proper interconnections, these electrical parts can form a 'radio' which now has the emergent property that it can sense energy patterns in the surrounding space and produce audible signals.

So in a certain sense, we can say that when the parts were put together a radio was 'born' and when the parts were pulled apart, we can say that a 'radio' had died even though all the parts are still there.

Or more properly, we can say that the collection of parts now exhibits a property called 'radio-ness' and this property will exist as long as the parts maintain their correct interaction with one another.

It is also quite conceivable that the same set of parts could be put into a different arrangement with one another to produce another form with a still different emergent property, such as television-ness or computer-ness or whatever an intelligent and creative connecting principle (Transcendental Oneness) might be able to produce with the parts at its disposal in the sea of Objective Oneness.

These emergent properties exhibit what the Buddha called dependent arising. It would be difficult to imagine that the property of



radio-ness could be disassociated from the form that it emerges from.

This would be as if 'radio-ness' were floating around in some holding space. It would then enter the collection of parts once they achieved the proper relationship with one another. When the parts lost their cohesiveness, it would then re-enter its holding space, only to wait until a new collection of parts was formed that it could then enter.

I would guess that our emergent properties of 'selfness' and 'consciousness' are not very different in their origin than the property of 'radio-ness'.

Subjective Oneness

We finally reach the domain which has thrown a boulder of doubt in the path of my practice, namely, the domain of Subjective Oneness.

You describe Subjective Oneness in the following way:

"Subjective Oneness refers to the integration of the contents and processes of mind. It can also reflect a kind of philosophical position that the apparent physical, objective reality does not actually exist but is entirely made up by mind in some metaphysical way. The subtle version of Subjective Oneness is that the physical universe exists, but it is skillful means to relate to it entirely as it is constructed and represented in the mind by the brain."

I would say that EP is very close to your subtle version of Subjective Oneness and it is this domain that I would like to explore with you further.

The Relationship of the Four Domains to One Another

I consider the domains of Objective Oneness, Ordinary Duality, and Transcendental Oneness to be three parts of the same metaphysical model. Their relationship is

as follows:

Transcendental Oneness provides the driving force and the principles that determine the forms, interactions, and emergent properties of Ordinary Duality that occur within the sea of Objective Oneness.

The three exist simultaneously to form one coherent universe and metaphysical system. One does not get to choose one over the other, the three work together (divine trinity?).

And what of the domain of Subjective Oneness?

I would like to propose that Subjective Oneness is the overarching domain that contains the other three along with all of the perceptions, experiences and metaphysical models that may arise within them.

And once we realize that all we can ever experience and know is contained within the domain of Subjective Oneness, then one must also recognize that EP is at the heart of this domain. And with that recognition comes the specter of doubt that can destroy any metaphysical system that arises within that domain.

An Examination of EP In More Detail

You provide a very thorough description of the evolution of awareness and cognition in your article and hit the crux of the EP problem squarely on the head with the following statement:

"But the actual details of how an image of a red light is produced in the brain, let alone the subjective experience of the color, are far, far from clear. That is what has been called 'the hard problem in consciousness,' and it is far from solved in any detail."

I agree with this statement entirely, but wonder whether I detect a subtle assumption in this statement which eventually lets you discard Subjective Oneness as an unlikely position (as you seem to do later in your article).

When you use the phrase “how an image of a red light is produced in the brain,” this seems to tacitly assume that there is indeed a ‘red light’ out there and we simply recreate it in our brains.

This would treat the eye as if it were a window on the world rather than part of a complex system that creates energy representations – not unlike the way a TV receiver creates visual representations of the electrical impulses that it receives.

It would seem more correct to me to state that ‘red light’ is the perception or subjective internal representation in our brains of something which may exist in the outside world, but is only knowable through our representation of it as a ‘red light’.

Clearly, no red light ever enters our bodies beyond the retina. So how can we ‘see’ it or experience it as being

‘outside’? It is long gone before its energetic signature has traveled the dark and mysterious neural pathway to reach our brains to form the representation called ‘red light’.

I think that if we look closely, we will realize that ‘red light’ is not something external to us but rather something internal. It is our representation of a particular interaction with the external world. It is totally localized within our brains but yet appears to exist in a space that is external to us.

It is a representation that masquerades as an external object when in reality it is an purely subjective internal effect.

This is not the same as saying that the outside world does not exist, but it does mean that we can only create and know internal representations of that outside world and can never know the outside world directly.

Grateful Wonder

The realization – beautifully expressed in Joseph Karniewicz’s article – that everything we perceive and think and feel is constructed in the mind and is at best a limited sampling and simplification of Reality . . . well, it can be a little disorienting, even disheartening.

So to shed some experiential light on these weighty matters as well as lighten them up, here are some choice videos and images for your pleasure:

- A fascinating, and famous, investigation of attention and awareness; do the test!

www.dothetest.co.uk

- Similar spirals at very different scales, showing how just a few deep laws govern a vast array of seemingly disparate phenomena:

<http://apod.nasa.gov/apod/ap080517.html>

- Two galaxies dancing together:

<http://antwarp.gsfc.nasa.gov/apod/ap080721.html>

- People dancing, around the world:

<http://antwarp.gsfc.nasa.gov/apod/ap080722.html>

Let’s look at this more closely by considering what happens in the process of someone seeing a red rose.

Electromagnetic radiation (light), which consists of vibrating electric and magnetic fields of various frequencies, hits a collection of coherently organized molecules (the rose).

Due to their specific form, this collection of molecules has the emergent property that it selectively absorbs and radiates specific frequencies of the energy that hits it.

The emitted radiation then interacts with another complex collection of molecules (‘the eye’) which then produces electrical and chemical signals which travel through another complex molecular group (‘the nervous system’) to eventually produce synaptic firings in an even more complex molecular group (‘the brain’).

Once this signal reaches the brain, the physical energy of neuron firings is miraculously transformed into the non-physical awareness that results in our sensing ‘a beautiful red flower’.

Nowhere in the external world is there anything that is red.

The molecular group that we call the ‘rose’ is not red – it’s just a collection of molecules and molecules do not have an inherent color.

The incident and transmitted light is not red – it is just electromagnetic energy of various amplitudes and frequencies.

The nervous system is not red, nor is there any ‘red’ flowing through it when it transmits its electrical and chemical signals.

And finally, when we sense ‘red,’ there is nothing in the brain that is actually red.

It seems fair to say that each step of this process is a different but somewhat equivalent representation of

‘something’ which may (or may not) exist in the outside world and it is only the final representation in our brains that is the ‘red rose’.

We might represent this process in the following way,

Obj ->Signal->SenseOrgan-> Signal N->Brain->State->Mind-> Rep

Where,

Obj is the external reality which is being sensed

Signal is the ‘energy’ emitted or modified by this object which enables it to be sensed. That is, we probe the object with some energy and then sense the modifications that occur to that energy (reflected light, for example).

SenseOrgan is the specific sense organ (e.g., eye, ear, skin, ..) which receives and interacts with the signal emitted or modified by the object.

Signal N is the output signal that the SenseOrgan emits – for example, electrical impulses



along the nervous system or chemical emissions. This signal undergoes many transformations as it moves along the neural pathway from sense organ to brain.

Brain is the complex neural structure that senses and receives the final transformed signal.

State is the state of neural firings that occur in the brain when it receives the final transformed signal.

Mind is the emergent property of the complex structure of the brain which senses the brain's physical state (neural structure) and allows for a non-physical knowingness of that state to occur.

Rep is the immaterial form that Mind produces to represent its knowingness of the brain's State.

Undoubtedly, the above series of transformations is a gross simplification of an exceedingly complex process. Its only purpose is to highlight that at each step of the knowing process we have complex transformations of signals that provide successively abstract and physically distinct representations of some external reality.

When we look at a red rose what we are sensing is not the rose itself, nor the light bouncing off it, nor the

electrochemical signals moving through the nervous system, but rather a complex state of neural firings taking place in the brain that is represented and known by the mind as a 'red rose in an external world'.

It boggles the imagination to contemplate just how far removed and physically disconnected the final representation of the object is from the object itself.

Relationship of Representation to Object

Is it possible that after all of these transformations and modifications of physical signals into an immaterial representation, that the immaterial representation is the physical object or is a true representation (in the objective sense) of that physical object?

There are a number of problems with this.

The first is that our representations are immaterial. How could something immaterial be something material? The object and our knowing are in completely different realms. The mental image of a 'red rose' is immaterial while the object is presumably material. How could the physical object be the same as the mental image called 'red rose'?



Secondly, what the mind senses directly are the neural patterns of the brain. These neural patterns are just that – neural patterns – they are not a rose. Is it possible that these neural patterns somehow open up a ‘gate’ in the mind that let’s the rose be known as it really is? Or is it more likely that the neural patterns are just given a particularly human representation that we sense as red and rosy?

Thirdly, is it possible that given all the complex transformations that take place during the process of knowing, the output of the process is the same as the input to the process?

That is, instead of the sequence,

Obj ->Signal->SenseOrgan-> Signal N->Brain->State->Mind-> Rep

we had the sequence,

Obj ->Signal->SenseOrgan-> Signal N->Brain->State->Mind-> Obj

I suppose one could argue that since the brain, nervous system and sense organs evolved along with the objects to be known, that it’s possible for a co-evolution to result in the Unitary Transformation (Obj -> Transformation -> Obj).

But it seems that this would be a very delicate process and difficult to maintain throughout evolution. It would also cause one to wonder which sentient beings are the ones that have developed the appropriate neural

structures to produce the Unitary Transformation?
Are humans in that select group?

Alternate Representations Are also Valid

It also seems clear that any change in either our sense organs, nervous system, or brain structure will give rise to alternate representations of external reality. Couldn’t these alternate representations also be incorporated into a functioning and efficient working model of reality that serves the needs of that being?

In an extreme example, imagine that a bat or some other creature with sense organs and neural patterns far different than ours were to sense the ‘red rose.’ Its representation of that same energy would be something we could not possibly even imagine .

Is its representation any less valid or true than ours? I doubt that there is anything ‘red’ or ‘rosy’ about the bat’s representation of our ‘red rose’.

The point here is that a variety of alternate representations can result in a functioning model of reality and there is no a priori demand that our representations accurately reflect some fixed external reality.

Maybe No External World at All?

It also seems reasonable that if the electrical and chemical signals that travel through the nervous system when sensing a ‘real red rose’ could be induced through some external (or internal) mechanism, then we would sense a ‘red rose’ as surely as if a ‘real red rose’ were actually the source of those signals.

What if all the signals that travel through our nervous system when we sense the external world could be constructed entirely through internal processes? Then undoubtedly we could ‘sense the

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world' even if there were no world to sense.

I think all these observations are not just idle conjecture. One could study many cases in neurology, such as phantom limbs or synaesthesia, which lend credence to the basic tenets of EP; *Phantoms in the Brain*, by V.S. Ramachandran, offers many examples.

Alternate Representations as Approximations to Reality?

So while we might agree that our representations are but dim and shadowy reflections of a far distant reality, it might be possible that they do transmit some information about their source. But to what degree?

To explore this, imagine that we have a computer program that will transform the notes of a beautiful Beethoven sonata into light patterns of various colors and brightness. We could then create another program that senses the light patterns and transforms them into a complex series of thermal pulses of varying temperature and intensity. We could once again sense and transform the thermal pulses into a series of electrical pulses that drives a mechanism that drops bottles from various heights onto a concrete floor.

While this series of transformations might seem farfetched, I doubt that it even comes close to the complexity and diversity of the transformations that take place in our nervous system as signals are transmitted and transformed on their way from the outside world to the brain.

Now the question is, to what degree does the cacophony of the bottles breaking on the concrete floor carry forth the beauty and symmetry that was inherent in the Beethoven Sonata that is at its source?

Is it possible to listen deeply to the crashing bottles and still sense the inherent beauty of the sonata or have the transformations so totally altered the final representation that it now stands on its own without reference to its source?

We could hope that as we move up the evolutionary chain, sense organs and brains will have developed so that their representations come closer to reflecting something about their sources, but how would we ever know?

Occam's Razor Applied to Strong Claim

In the article, you present some arguments that cast doubt on the EP claim.

The first deals with the strong claim and you state:

"Personally, we think there are a lot of problems with the strong claim. For example, it violates the principle of Occam's Razor – "take the simpler of two explanations" – in its presumption of both all the material components of the universe and the purely mentalistic fabrication of these; why add the mentalistic fabrication part when a purely materialistic explanation will do?"

I wonder if you could not apply the principle of Occam's Razor in another way.

Why add the materialist part when a purely mentalistic approach will do?

Why would the universe create the unimaginable amount of energy that we appear to sense when it actually takes only a few watts of power to create the entire world representation within our brains? Why wouldn't the universe go for the most efficient energy

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solution (as it usually does) rather than the most complex?

Even when we feel that we are witnessing colossal amounts of energetic movement (hurricanes, volcanoes, earthquakes, tsunamis) all that we know of those “events” is through the modification of images in our brain. Neural patterns that represent standing buildings are being modified into neural patterns that represent collapsed buildings.

The amount of energy actually involved in modifying our neural patterns is minimal compared to the amount of energy that we assume is involved in the building collapse. But we only know the building collapse (if indeed there is such a thing happening) through our internal representation and nothing else.

Physics and Mathematics In Support of the Strong Claim

I've always found it somewhat amazing that we are able to describe the world through mathematics. Why

should there be a connection between the purely theoretical constructs of mathematics and the laws of physics?

Is it possible that the same neural structures that are involved in the internal formulation of mathematics are also involved in creating our representations of the world?

As an example, the same neural structures which give rise to the exponential function may also be responsible for our ordering of representations within the brain (i.e. time), would it then be surprising that many time sequences in nature exhibit exponential behavior?

Denial of External Reality

You also cast doubt on the Strong Claim with the following observation:

“The strong claim can also be used to imply that the Jews created the Holocaust, that the millions of children who die each year from hunger made that



happen, or that your friend is the cause of her breast cancer.”

I can respect this argument because I think it is trying to avoid the danger that one could run into with EP. Namely, that EP could create an indifference to the events and suffering in the world, and that might be a very unhealthy domain to enter.

(I might add, that a strict adherence to Objective or Transcendental Oneness could also lead to this lack of caring if not tempered with compassion.)

But within your reservations about Subjective Oneness, you do state that ultimately one could not strictly prove or disprove the Strong Claim.

I agree with you here as well. The Strong Claim is a bit of a stretch and would probably require postulating that there was just ‘one mind’ so that we could explain common experiences and other somewhat radical and improvable postulates. But I think we do have to respect it as a possibility that tempers everything else we say.

I feel much more comfortable with the subtle version of Subjective Oneness which is closest to EP and which would not say that the Jews created the holocaust nor that we create our own cancer.

But I do think it’s true that Jews, holocaust, we, and cancer are all subjective representations of energy transformations taking place in the external world that are only knowable by us as these specific representations.

Once again, imagine some other sentient being with different neural patterns and sense organs who sensed the holocaust or us or cancer. I doubt that their representation of those events would be anything that we could relate to.

EP Applies To All of the Senses

A possible attack on EP can be made by focusing not on sight, but by declaring the irrefutable reality of the other sense perceptions. But I think that all of the senses ultimately fall prey to EP.

Analyzing sound is fairly easy. We know that sound is our representation of molecules vibrating against the ear drum. Vibrating molecules are not the same as the internal representation that we call tone or sound.

When a tree falls in the forest and there’s no one there to hear it, does it make a sound? No, it vibrates air molecules – it takes an ear and a mind to create the immaterial representation that we call sound.

The sense of smell can be treated in a similar way. The mind represents the interaction of specific



molecules with the nose sense organ as a specific smell. The molecules themselves are not the smell nor do they have a 'smell'.

Taste can be studied in a similar way to smell.

And finally we have the sense of touch. This has the most potential for refuting EP. Can I possibly deny the reality of my perceptions when I walk directly into a wall. That wall is there and so is the bump on my head!

But I think you could argue that solidity is once again a subjective internal representation of our sense organs interacting with an external object.

When we press against an object, the electrons in our hands are interacting with the electrons in the object. We never actually 'touch' the object, but sense instead the electrochemical interaction initiated by the electrical field of object interacting with the electric field of body. And this interaction follows a similar course of transformations as does the light hitting the red rose. The final result is that our brain represents that interaction as solidity.

But, but ... how can you deny the solidity of the object? Well for starters we know that all objects are predominately composed of empty space. If the nucleus of an atom were the size of a marble, the electrons surrounding the nucleus would be over two miles away.

If we were sentient beings who were made up of neutrally charged particles we would be able to pass directly through a so-called solid wall.

Is it the wall that is solid, or is the interaction of our human sense organs and human brain with the 'wall' that represents this interaction as 'solid wall'?

Or suppose that we were sentient creatures whose size was on the atomic level. We could pass through this 'solid wall' as easily as a space ship passes through the cosmos. Where is the concept of solidity here?

Solidity is not alone in this analysis. The same

process is at work when we sense roughness, softness, smoothness, liquidity and any other subtle variation of the interaction of electric field with electric field. Our representations are quite rich and convincing, but they are still just internal immaterial representations.

This same type of analysis can be bootstrapped and applied to any perception that we have. In any given moment, our brain has assembled all of our representations into a complex hierarchy of objects in an external world and these representations interact with each other in space and time.

But just as the complexity of a computer program can be reduced to the base functioning of simple zero and one combinations, any complex perception in space and time can be reduced to a series of subjective internal representations.

And what of those things in the universe that we are not able to sense? How would sensing them add to, negate or modify the current set of representations that make up our experience? How would our 'reality' be changed?

No matter how complex, intricate and absolutely real the world appears to be, its appearance is fundamentally just our representation of a complex neural state that arises from the unique interaction of our brain, nervous system, and sense organs with the external world. Modify any element in the chain and the representation will change.

Space and Time as Internal Subjective Representations

The pervasiveness of EP is sometimes hard to fully appreciate.

Not only is it just the 'objects' of our world which need to be acknowledged as internal representations, but also the 'space' which holds the objects and the 'timing' in which representations transform.

It is somewhat difficult to imagine that even the space

we apparently move in and that holds and separates 'objects' is constructed by the mind, but I believe that a careful analysis of the situation will reveal it to be so.

It is quite possible that there is indeed some 'allowing-ness' or 'degree of freedom' in the universe. But we can never know that directly and can only form a subjective representation of it. Our sense of 'space' and 'movement' might be our representation of that allowing-ness.

And just like all representations, it is unique to our specific neural structure and sense organs and will be represented by other neural structures and sense organs in ways we could not begin to comprehend.

Of course, the same is true for our sense of time. It is our subjective representation of an 'ordering' of other subjective representations.

As an example of this subjectivity of space and time, we can imagine a sentient being with a 'one-dimensional brain' moving about on a two dimensional surface.

When this one-dimensional being turns a two-dimensional corner, representations of objects come

into existence within its brain, and when the creature turns another corner, representations go out of existence.

For higher dimensional beings, it's clear that the objects did not come into and go out of existence in time as the corner is turned. But for this one-dimensional creature, its movement in a two-dimensional world requires that the second-dimension be represented as a time dimension -- complete with creation and destruction.

So the EP principle is all pervasive and recognizes not only objects as our subjective internal representations, but also the space and time which holds the objects, and perhaps even our own particular consciousness which becomes aware of all this.

The Dragon Swallows Its Tail

Nothing brings this home for me any stronger than the image in Dr. Jill Taylor's presentation (<http://www.ted.com/talks/view/id/229>) where Dr. Taylor is holding a human brain in her hand with the spinal cord dangling out from it.

It looks quite unbelievable, but apart from the details



which keep this object functioning, supply it with input signals, and wrap it in a very nice sack, this is essentially what we are. To put it crudely, we are a 'piece of meat on a stick' – but oh, what an amazing piece of meat!

Inside this dark, silent solid mass of 'meat' is our world consisting of the representations and awareness of all that we experience – space, time, color, taste, touch, sound, smell, object, self, other, and the whole spectrum of non-physical representations that we are capable of producing within this particular physical structure of brain, spinal column, and sense organs.

Let's return for a moment to the transformation series that was discussed earlier:

Obj ->Signal->SenseOrgan-> Signal N->Brain->State->Mind-> Rep

This sequence was given an arbitrary starting point which was labeled as Obj.

By doing this we gave Object the special status of objectively existing. But if we think more carefully about this series, we realize that the Object itself is also a representation, as are signals, sense organs, brain, and brain state.

Could Mind also be a representation? Suffice it to say that I have no idea what it would mean for mind to be considered a representation, but perhaps the Heart Sutra might provide some insight or at the very least help add to the glorious confusion.

"There are no eyes, no ears, no nose, no tongue, no body, no mind. There is no seeing, no smelling, no tasting, no touching, no imagining. There is nothing seen, nor heard, nor smelled, nor tasted, nor touched, nor imagined"

There now, isn't that better!

If Mind itself is a representation, then the

series reduces to the elegant form:

... -> Rep -> Rep -> Rep -> Rep -> Rep -> Rep - ...

Representations give rise to and are known by other Representations.

But perhaps even this is too much and there may be just simply:

---- Rep ----

which might just as well be designated as:

--- Om --- or --- Mu --- or --- ----

So our final application of EP tells us that the apparent brain, spinal column, and sense organs, as well as atoms, neurons, quarks, strings, space, time and all the rest, are not objects that are directly knowable in themselves but are internal representations of 'things'.

Things which may be, in and of themselves, unknowable and perhaps which have no basis in reality other than as representations of perhaps 'No-thing'.



Would it be too much to say that, “The brain is an internal representation of itself within itself”. Yes, it probably would.

And with this final stroke, even EP, which had its origin within a particular representation, comes crashing down along with all representations and implodes on itself in the ultimate defeat of absolute knowledge – and that leaves me in a very quiet state indeed.

Physics and Reality and Truth

So does EP leave us in this gray area where all is possible and it's just a matter of how we represent external events? Is it really every bodhisattva for themselves? Well, not quite.

If we look at all human brains, we realize that for the most part they all have a similar structure. Given that similar structure, they will all form similar representations of the outside world. When you look at the energy called ‘red rose’ and I look at the energy called ‘red rose,’ we both (probably) represent it in a very similar way. Thus ‘red rose’ is part of our common world representation.

In addition, we also notice certain cause and effect relationships between these representations. We build up laws of relationship among them (e.g., physics, chemistry, psychology), and find relationships and connections among their emergent properties (e.g., music, art, poetry).

We notice a certain regularity. If representation A and representation B interact in a certain way, then

we notice that representation C will arise. If this happens with strict regularity, we embody it in a law of physics or an operational principle of our system of representation.

For example, when the representation called ‘red rose’ occurs ‘close’ to the representation called ‘nose,’ I expect the representation ‘rosy fragrance’ to occur.

Other sentient beings will also do the same with their neural patternings and sense organs. They will create representations, observe relationships, and build up their own laws of physics and operational principles based upon the very same energy interactions that we are sensing. But undoubtedly their representations, physics and art, indeed, their world, will be something which we would be hard pressed to comprehend.

We will each establish criteria for truth and tests for reality based upon causal expectations. Within our distinct realms of representations we will each be able to say whether things are true and real. But “truth” and “reality” will only be valid and have meaning within the subjective context of our representations.

So if I am asked whether something is really a ‘red rose’, I might hold it up to my ‘nose’ and see if it had that ‘rosy fragrance’. If it doesn’t, I might say this is not a ‘red rose’.

But if a bat were to test whether it was sensing the same energy pattern that we called ‘red rose’, undoubtedly its criteria for truth would be far different than ours. Nevertheless, it would still be able to tell whether that energy was ‘really’ its representation of ‘red rose’ or not.

The Practice Dilemma Revisited

It is within this context, that my practice has come upon a stumbling block.

It is clear to me that my life consists of experiences which are only known as mental events or perceptions that are immaterial subjective

Perspectives on Self-Care

Be careful with all self-help methods (including those presented in this Bulletin), which are no substitute for working with a licensed healthcare practitioner. People vary, and what works for someone else may not be a good fit for you. When you try something, start slowly and carefully, and stop immediately if it feels bad or makes things worse.

representations of a far distant (neurally speaking) reality that I can never know directly.

The situation makes me feel a bit like one of the people in Plato's cave analogy who is constrained to looking at the shadows on the cave wall (the representations in my mind) and can never turn around to see the real world that may be at their source.

Even when I am practicing a metaphysical system that promises realization, I may just be looking at a more beguiling set of shadows with even more enticing concepts and forms that just pushes me deeper into the shadow world.

Frequently we get the admonition in meditative practice that this type of thinking is just the 'papancha' mind at work, and that we should put this aside and embrace the shadows as they are and all will eventually be revealed.

And this can be done. I can try to enter into deeper and deeper states of concentration and quiet the mental apparatus.

Perhaps I might even alter the way that neurons fire and change my internal representation from one of duality to one of unity.

But this is still just a subjective internal representation and may have no more validity than any other representation. I may have just swapped one shadow for another.

You state in your article that,

'It is only when one moves beyond the jhanas, into what is called cessation, that one enters territory that is by definition indescribable – perhaps all that can be said is that you're not in Kansas any more!'

Perhaps this is so, but it's also possible that, while I might not be in Kansas any longer, I may have just crossed over the (neural) state line into Iowa and be just as lost in Iowa as I was in Kansas!

Imagine that our brains were constructed in such a way that feelings of oneness were the norm and 2600 years ago a Buddha managed to change his neuron structure so that he could experience the richness of duality. Would that be my meditative goal today?

What did the Buddha really mean when he said 'Mara, I see you!'. How totally radical was that seeing? Was it a seeing that went beyond all representations? Or was it a seeing that was still caught within a particular subjective representational system?

Appreciation and Final Thoughts

Thank you once again for allowing me to express these thoughts regarding meditative practice and for



the wonderful forum that you provide for this type of discussion.

It's true that when all is said and done, we have to work with what we have. So even though my perceptions may be imperfect impersonators of reality, they do indeed form the only reality that I know.

And while this initial recognition of the subjectiveness of all perceptions might at first give rise to a sense of hopelessness in terms of pursuing a practice that might lead to some form of objective truth, it might also signal the end of one phase of practice and the beginning of another.

Rather than being hobbled by the realization that I will

always remain firmly held in the grips of Maya, I can marvel instead at the very fact that representations of the unknowable are even possible.

And just as the sound of bottles falling on a concrete floor may contain an echo of the beauty of the Beethoven sonata at its source, perhaps my representations of the world are also a reflection of what is at their source. Perhaps they are dharma gates, a compassionate finger pointing at the moon.

So I can gaze at this beautiful rose in my hand, complete with its delightful fragrance, its rich red color, and its petals as smooth as silk. And I can feel a sense of awe and wonder in the realization that what I am directly experiencing is nothing other than my own mind.

And I can include in that representation not only the rose but also the hand that is holding it, the sense of beauty that surrounds it, the self that claims it, the space that allows it, the time that changes it, the wonder that permeates it, and even the mind that knows it.

And I can use that sense of wonder to deepen my respect and longing for that which may be at the heart of and yet completely beyond all representations – even if that quest turns out to be nothing more than Mara's best illusion.

Warmest regards,

Joseph Karniewicz

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Joseph Karniewicz is a retired microelectronics engineer with a Ph.D. in physics who is now living in Port Townsend, Washington, where he continues to explore his lifelong interests in physics, metaphysics, computer science, and music. He can be reached at jkarniewicz@cablespeed.com.



Words of Wisdom

The Buddha taught that we should cultivate clear knowing for ourselves. Whatever arises, arises in this knowing. When that which knows, knows in accordance with the truth, then the mind and its psychological factors are recognized as not ours. Ultimately, all these phenomena are to be discarded and thrown away as if they were rubbish. We shouldn't cling to them or give them any meaning.

Ajahn Chah

The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function. One should, for example, be able to see that things are hopeless and yet be determined to make them otherwise.

F. Scott Fitzgerald

In modern neuroscience, there is a deep question about whether the mind and consciousness are any more than simply operations of the brain....Though heavily contingent upon a physical base, including neural networks, brain cells, and sensory faculties --- the mental realm enjoys a state separate from the material world. From the Buddhist perspective, the mental realm cannot be reduced to the world of matter, though it may depend upon that world to function.

The Dalai Lama

Man's mind, once stretched by a new idea, never regains its original dimension.

Oliver Wendell Holmes

Nothingness spreads around us. But in this nothing we find what we did not know existed.

Susan Griffith

A person most fundamentally is to be understood as a self-less, dependently arisen confluence of five aggregates, processing transient

phenomena through six sense doors in a moment-to-moment construction of virtual experience.

Andy Olendzki

...as Master Zhao Zhou told his disciples, "There is no better thing than no thing." That is, no matter how wonderful something is, there is nothing more wonderful than no thing.

Harada Sekkei Roshi

A faith that cannot survive collision with the truth is not worth many regrets.

Arthur C. Clarke

I find that somehow, by shifting the focus of attention, I become the very thing I look at and experience the kind of consciousness it has; I become the inner witness of the thing. I call this capacity of entering other focal points of consciousness: love; you may give it any name you like. . . . Love says: "I am everything." Wisdom says: "I am nothing." Between the two my life flows. . . . Since at any point of time and space I can be both the subject and the object of experience, I express it by saying that I am both, and neither, and beyond both.

Sri Nisargadatta Maharaj



From Our Contributors

RIGHT SPEECH

Bruce Silver

**speaking unkindly,
speaking cruelly**

When I was young and without much skill,
I learned somehow that words can kill,
(But mostly, people just bleed a bit.)

lying

The grownups told me not to lie;
They yelled. "Shame! Shame!" and made me cry,
(While they shaped *their* truth to 'fit').

**sarcasm and
shaming**

Then as I aged, more skills I honed;
I carved and cut right to the bone-
(And all the time I called it, 'wit'.)

**omitting words that
could help or heal**

As I grew older, much more I learned
That words not said can tear and burn
When it is, 'pertinent.'

**exaggeration,
embellishment**

I made truth LARGE or sometimes small;
I watched my adjectives rise and fall
'Til reality was not there- *at all!*

**speaking of things
of which I am not
certain; gossiping**

I spoke of matters I did not know
And made gossip a toxic flow
To divide- then build a wall.

**unfair, vitriolic
criticism that causes
separation- not
reconciliation-**

I criticized with juttred jaws
Condemned sometimes with no just cause
And scattered friends like windblown straws.

**deep empathetic
listening**

So many years right speech was missing
'Til sages taught me how to listen-
To polish truth, to make it glisten,

And now I choose to deeply hear
What people love, what people fear
And listen to *that* truth- *so dear!*

For love will sweeten ev'ry tongue
And after all the songs are sung,
What IS, is **TRUTH**, *forever* young.

Be Free
Tom Bowlin

It doesn't
Matter

How it
Turns out

Surrender
Now

To the rest
Of your life

Fall
Into it

Be
Free

Too Tightly
Tom Bowlin

If you hold
Your beliefs

Too
Tightly

You lose
Your grip

On
Reality



Offerings

Rick Hanson, PhD, and Rick Mendius, MD

1. In early September, Sounds True will have available for download a three CD set of talks and (mainly) brain-savvy exercises for increasing your happiness, by Rick Hanson. Check out www.SoundsTrue.com and just search on “happiness” and you’ll find it. Like any publisher, Sounds True will evaluate the popularity of this material from its sales . . . so we appreciate any word-of-mouth support you can give it!

2. Also in September – and we’ll email you with the schedule in your area – Rick Hanson is interviewed with other experts in the national PBS pledge drive special, *Happy for No Reason*, based on Marci Shimoff’s wonderful, best-selling book. It’s a very cool TV show, with lots of great, and practical material.

3. At Spirit Rock, in 2008, these daylongs with Rick Hanson and Rick Mendius are scheduled:

- The Neurology of Awakening, on Saturday, September 6. We’ll cover how to nurture the brain states that foster the steadiness of mind leading to the deepest and most liberating insights. This is our foundational workshop, with solid neurology and practical tools for activating, step-by-step, the brain states of the Buddha’s progressive process of contemplative illumination.
- The Hard Things That Open the Mind and Heart: Practicing with Difficult Conditions, led with James Baraz, on Sunday, November 2. This is for people grappling with difficult conditions – both internal and external – and for caregivers and friends who support those individuals. These include challenges with the body, mind, and life circumstances. We’ll cover Buddhist perspectives

and practices for difficult conditions; lovingkindness for oneself and for any being who suffers; brain-savvy ways to strengthen your capacity to be with the hard stuff; and methods from the intersection of the dharma and neuroscience for lifting mood and cultivating joy

- Resting in Emptiness: The Evolution of Awareness and the Transcendence of the Self, on Sunday, November 30. This workshop will address the thorny and fundamental question of . . . “me, myself, and I.” The self – with its tendencies to grasp after possessions and take things personally – is perhaps the premier engine of suffering. We’ll explore the evolution of the apparent self in the animal kingdom, and the ways in which the self is real and is also not real at all, coming to rest more and more in the underlying spacious awareness in which self appears and disappears.

4. At the Sati Center in Redwood City, California, on Saturday, October 4, we will be presenting the Resting in Emptiness daylong.

5. At Claremont Graduate University, during October 19 – 21, along with Father Thomas Keating, Richard Davidson, Evan Thompson, and Dan Siegel, we’ll be speaking at a conference on using neuropsychology to help illuminate the common ground – and differences – among the contemplative practices of different faith traditions. It’s titled *Neuroscience and Spiritual Practices: Transforming the Embodied Mind*, and it’s being organized by Wellspring Institute Board member, Dr. Andy Dreitcer. For more info, go to <http://neurospirituality.blogspot.com/>.

Fare Well

May you and all beings be happy, loving, and wise.